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Structure of heme

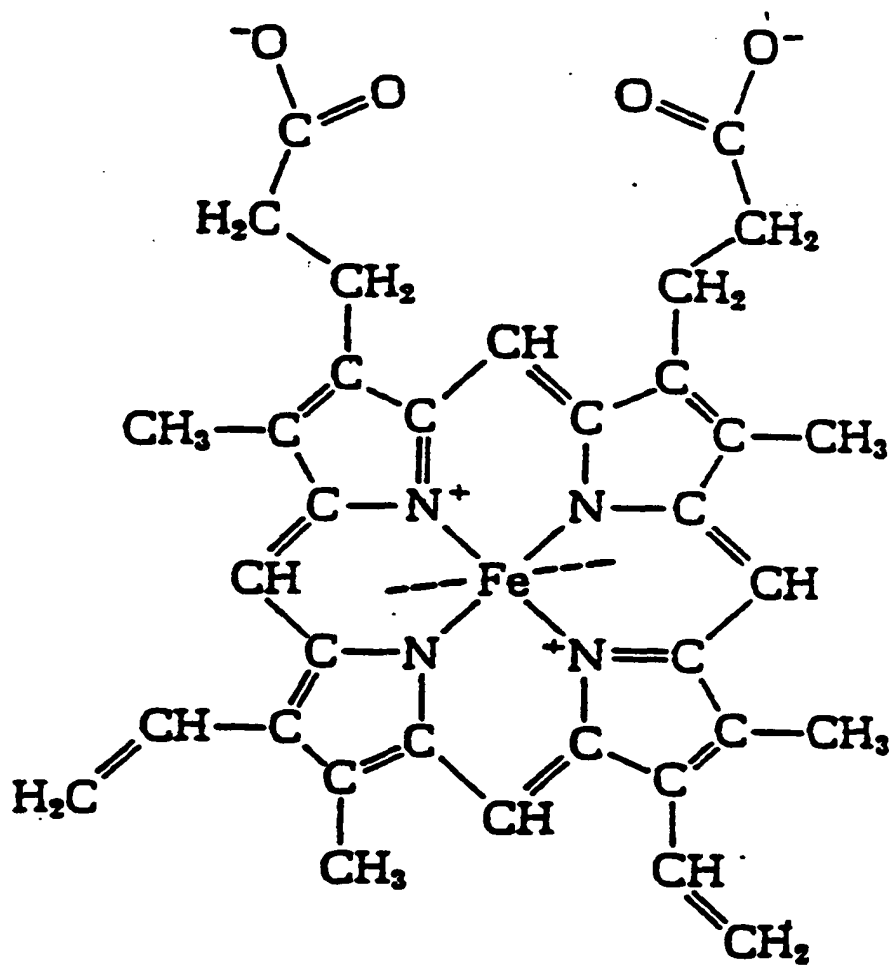


FIGURE 1

10065853, 101801

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108553 0133

Alpha globin sequence:

1 GTG CTG TCT CCT GOC GAC AAG ACC AAC GTC AAG GOC GOC TGG GGC 45
 Val Leu Ser Pro Ala Asp Lys Thr Asn Val Val Lys Ala Ala Trp Gly

 48 AAG GTT GGC GOG CAC GCT GGC GAG TAT GGT GOG GAG GOC CTG GAG 90
 Lys Val Gly Ala His Ala Gly Glu Tyr Gly Ala Glu Ala Leu Glu

 91 AGG ATG TTC CTG TCC TTC CCG ACC ACC AAG ACC TAC TTC CCG CAC 135
 Arg Met Phe Leu Ser Phe Pro Thr Thr Lys Thr Tyr Phe Pro His

 138 TTC GAC CTG AGC CAC GGC TCT GOC CAG GTT AAG GGC CAC GGC AAG 180
 Phe Asp Leu Ser His Gly Ser Ala Gln Val Val Lys Gly His Gly Lys

 181 AAG GTG GOC GAC GOG CTG ACC AAC GOC GTG GOG CAC GTG GAC GAC 225
 Lys Val Ala Asp Ala Leu Thr Asn Ala Val Ala His Val Asp Asp

 226 ATG CCG AAC GOG CTG TCC GOC CTG AGC GAC CTG CAC GOG CAC AAG 270
 Met Pro Asn Ala Leu Ser Ala Leu Ser Asp Leu His Ala His Lys

 271 CTT CCG GTG GAC CCG GTC AAC TTC AAG CTC CTA AGC CAC TGC CTG 315
 Leu Arg Val Asp Pro Val Asn Phe Lys Leu Leu Ser His Cys Leu

 318 CTG GTG ACC CTG GOC GOC CAC CTC CCC GOC GAG TTC ACC CCT GOG 360
 Leu Val Thr Leu Ala Ala His Leu Pro Ala Glu Phe Thr Pro Ala

 361 GTG CAC GOC TCC CTG GAC AAG TTC CTG GCT TCT GTG AGC ACC GTG 405
 Val His Ala Ser Leu Asp Lys Phe Leu Ala Ser Val Ser Thr Val

 408 CTG ACC TCC AAA TAC CGT
 Leu Thr Ser Lys Tyr Arg

FIGURE 2

1	GTG	CAC	CTG	ACT	CCT	GAG	GAG	AAG	TCT	GCC	GTT	ACT	GCC	CTG	TGG	45
	Val	His	Leu	Thr	Pro	Glu	Glu	Lys	Ser	Ala	Val	Thr	Ala	Leu	Trp	
46	GCC	AAG	GTG	AAC	GTG	GAT	GAA	GTT	GGT	GAG	GAG	GCC	CTG	GCC	AGG	90
	Gly	Lys	Val	Asn	Val	Asp	Glu	Val	Gly	Gly	Glu	Ala	Leu	Gly	Arg	
91	CTG	CTG	GTT	GTC	TAC	CCT	TGG	ACC	CAG	AGG	TTC	TTT	GAG	TCC	TTT	135
	Leu	Leu	Val	Val	Tyr	Pro	Trp	Thr	Gln	Arg	Phe	Phe	Glu	Ser	Phe	
136	GCG	GAT	CTG	TCC	ACT	CCT	GAT	GCT	GTT	ATG	GGC	AAC	CCT	AAG	GTG	180
	Gly	Asp	Leu	Leu	Ser	Thr	Pro	Ala	Val	Met	Gly	Asn	Pro	Lys	Val	
181	AAG	GCT	CAT	GCG	AAG	AAA	GTG	CTC	GGT	GCC	TTT	AGT	GAT	GCC	CTG	225
	Lys	Ala	His	Gly	Lys	Lys	Val	Leu	Gly	Ala	Phe	Ser	Asp	Gly	Leu	
226	GCT	CAC	CTG	GAC	AAC	CTC	AAG	GCG	ACC	TTT	GCC	ACA	CTG	AGT	GAG	270
	Ala	His	Leu	Asp	Asn	Leu	Lys	Gly	Thr	Phe	Ala	Thr	Leu	Ser	Glu	
271	CTG	CAC	TGT	GAC	AAG	CTG	CAC	GTG	GAT	CCT	GAG	AAC	TTC	AGG	CTC	315
	Leu	His	Cys	Asp	Lys	Leu	His	Val	Asp	Pro	Glu	Asn	Phe	Arg	Leu	
316	CTG	GCG	AAC	GTG	CTG	GTC	TGT	GTG	CTG	GCC	CAT	CAC	TTT	GCC	AAA	360
	Leu	Gly	Asn	Val	Leu	Val	Cys	Val	Leu	Ala	His	His	Phe	Gly	Lys	
361	GAA	TTC	ACC	CCA	CCA	GTG	CAG	GCT	GCC	TAT	CAG	AAA	GTG	GTG	GCT	405
	Glu	Phe	Thr	Pro	Pro	Val	Gln	Ala	Ala	Tyr	Gln	Lys	Val	Val	Ala	
406	GGT	GTG	GCT	AAT	GCC	CTA	GCC	CAC	AAG	TAT	CAC					
	Gly	Val	Ala	Asn	Ala	Leu	Ala	His	Lys	Tyr	His					

FIGURE 3

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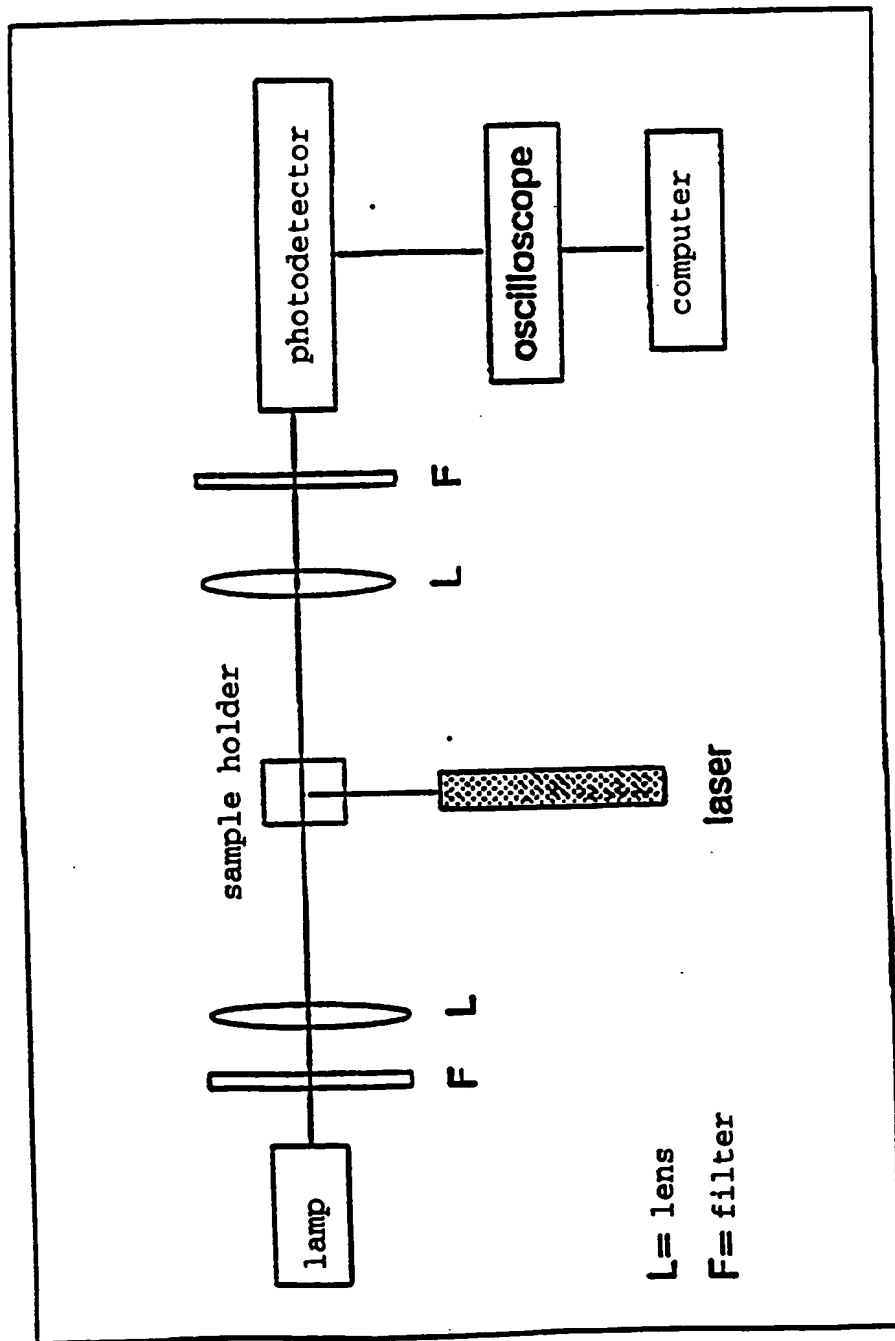


FIGURE 4

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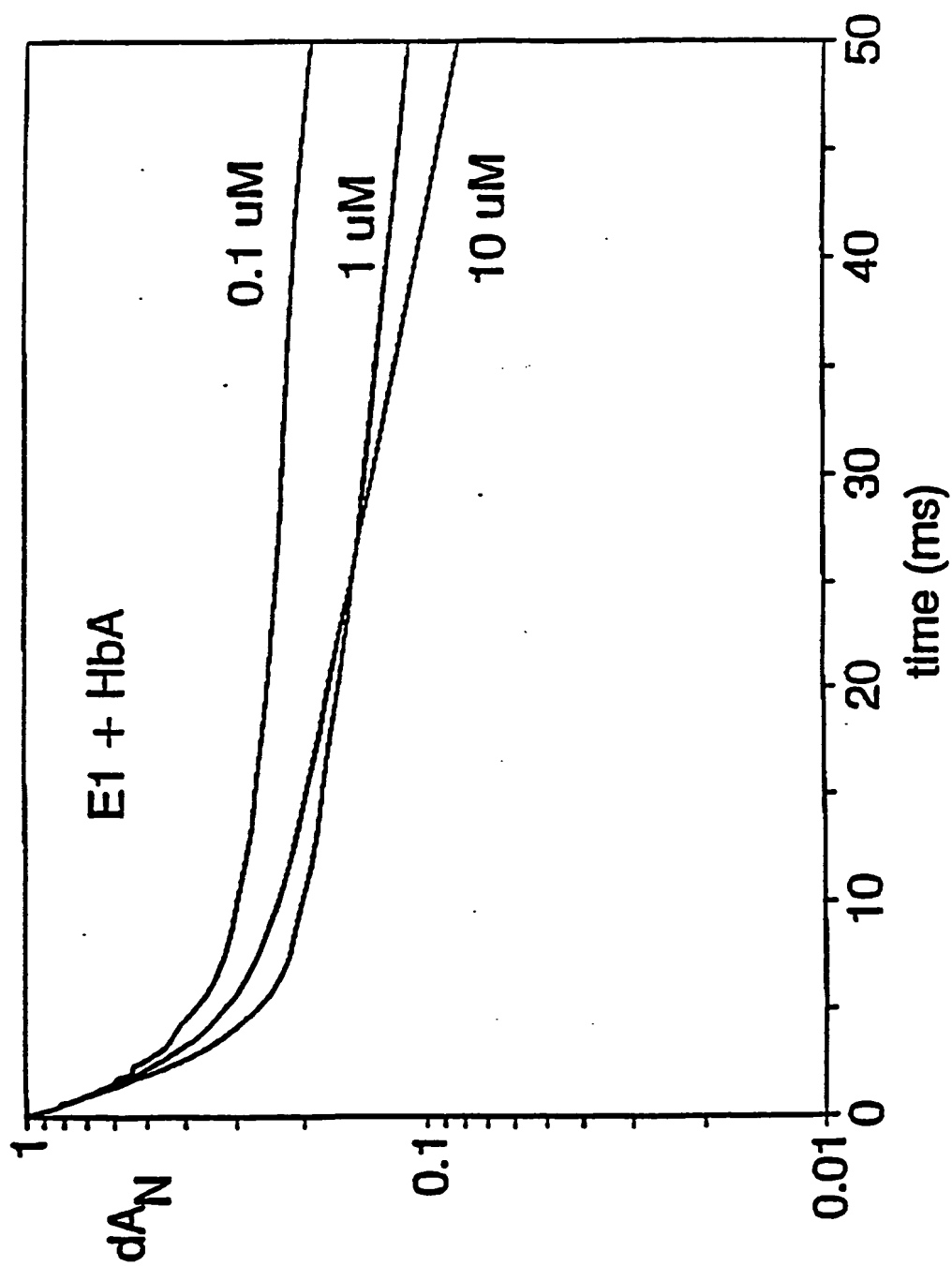


FIGURE 5

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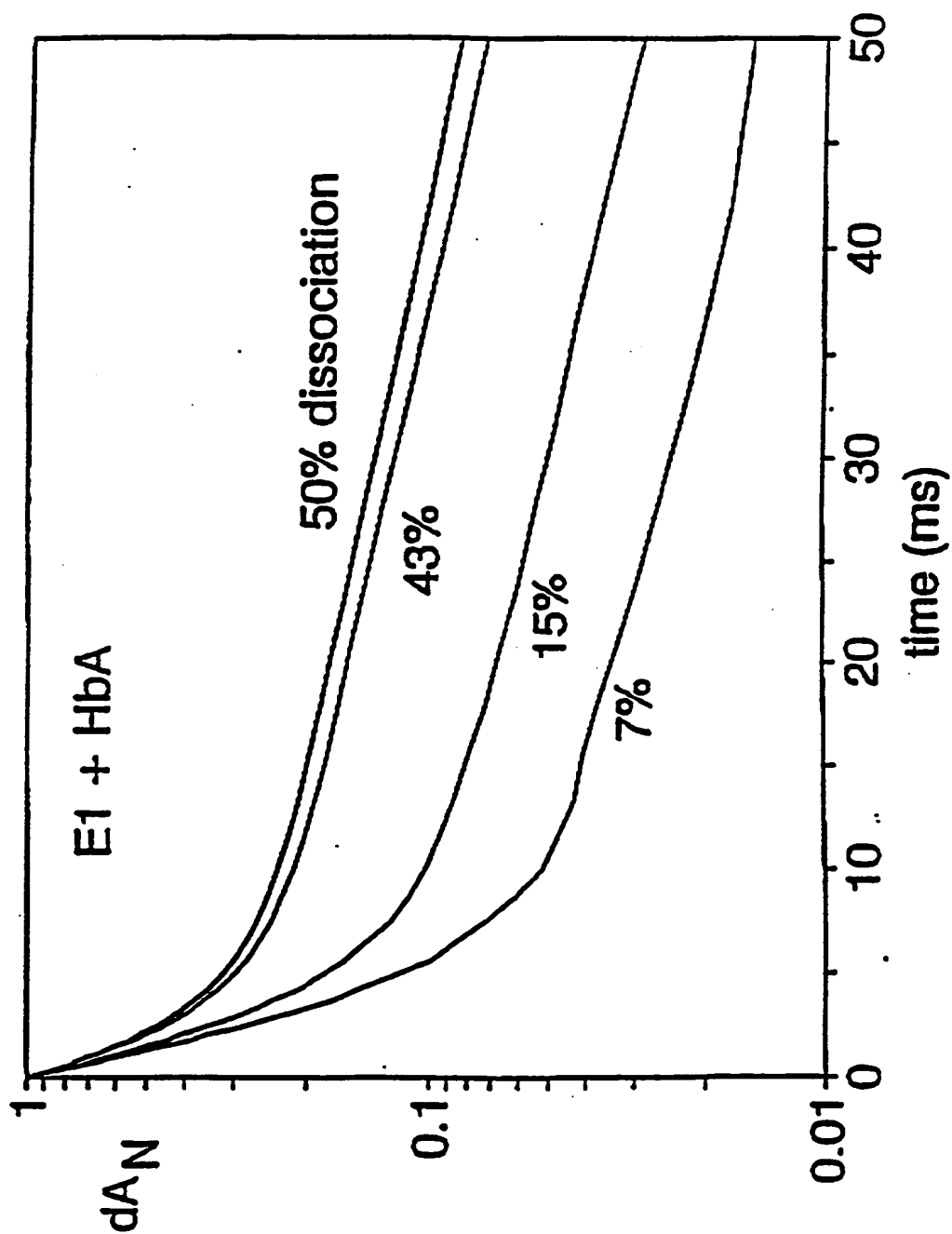


FIGURE 6

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FIGURE 7

10055553 103507

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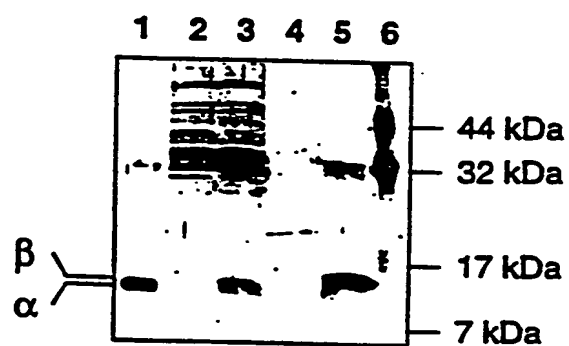


FIGURE 8

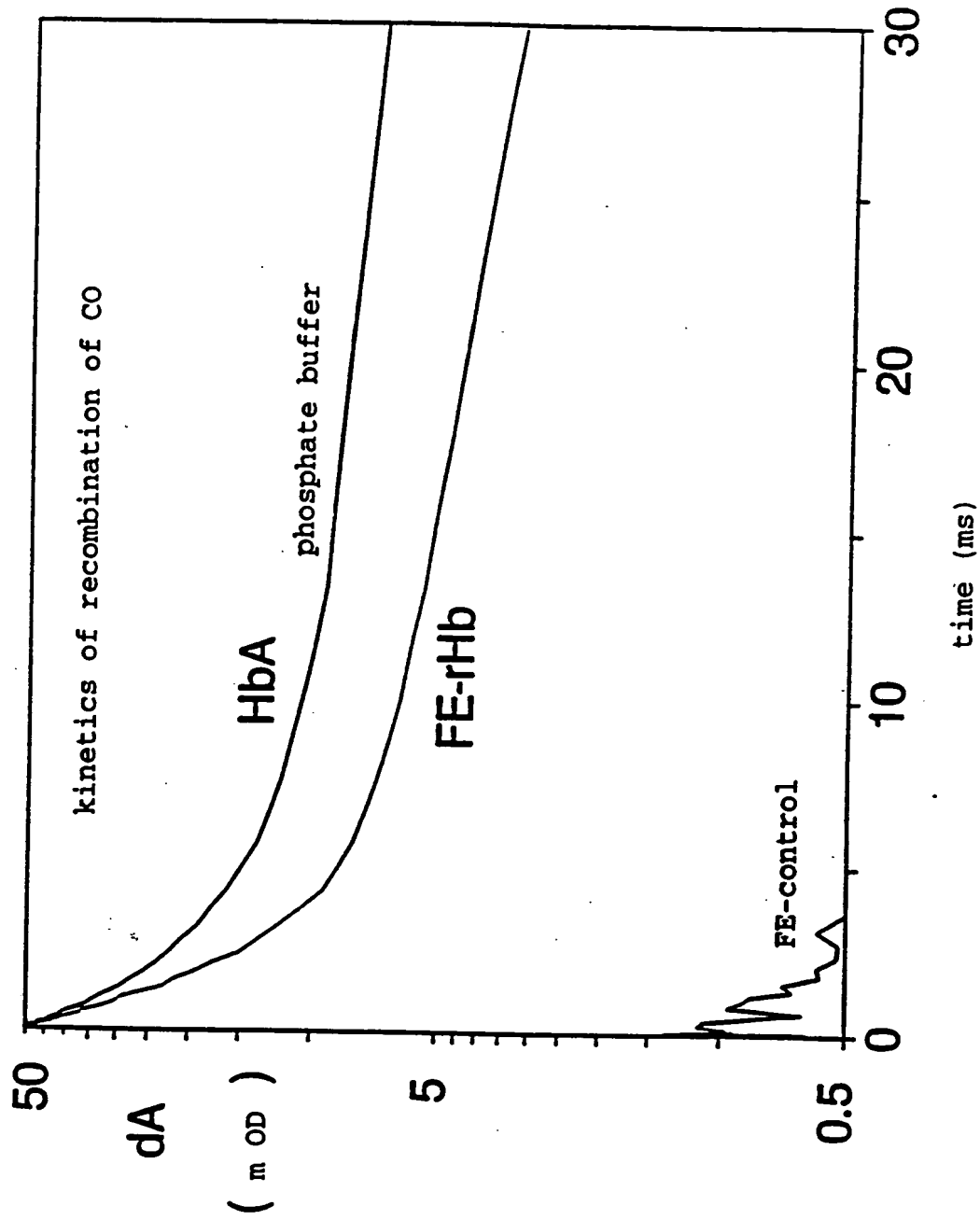


FIGURE 9

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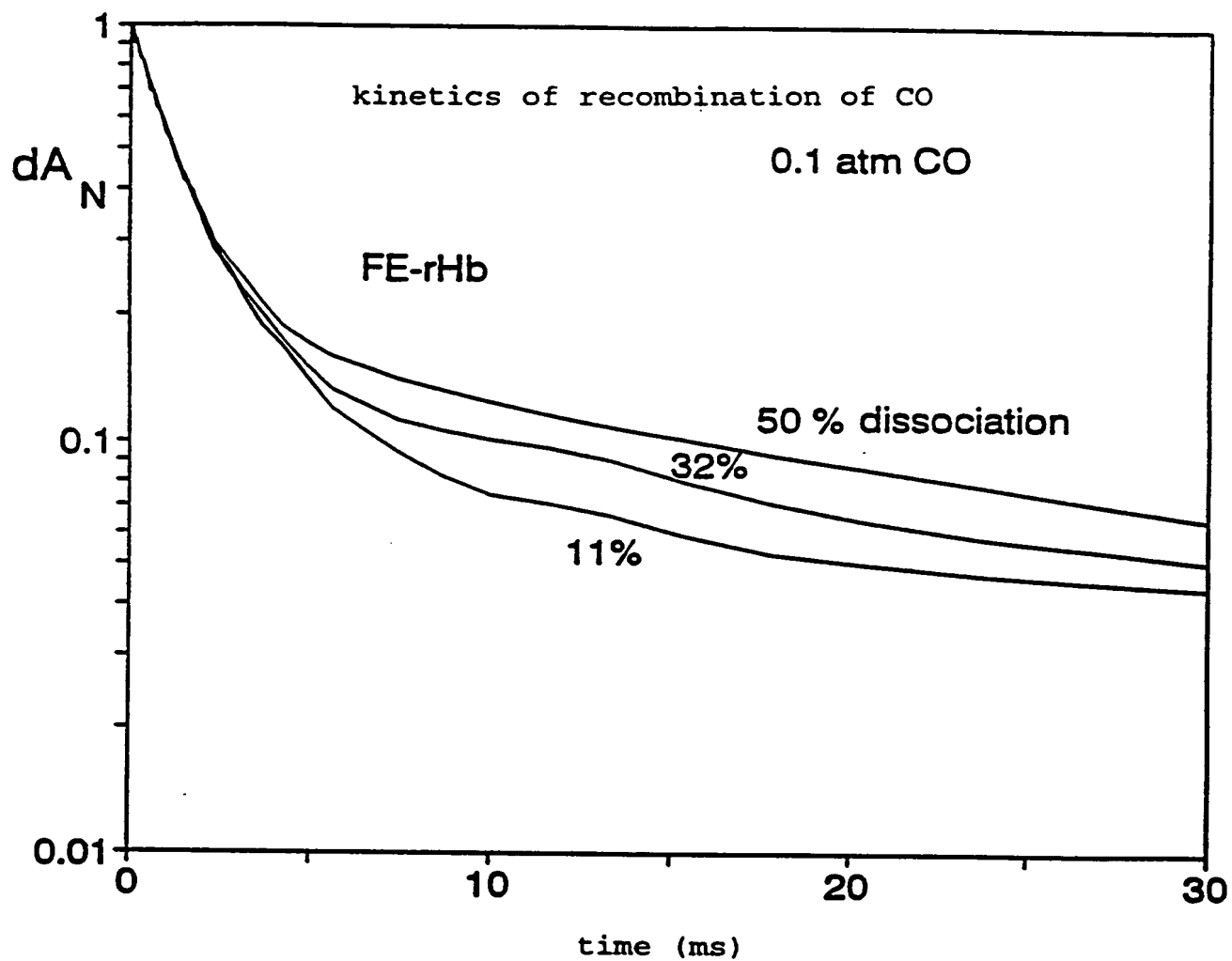


FIGURE 10

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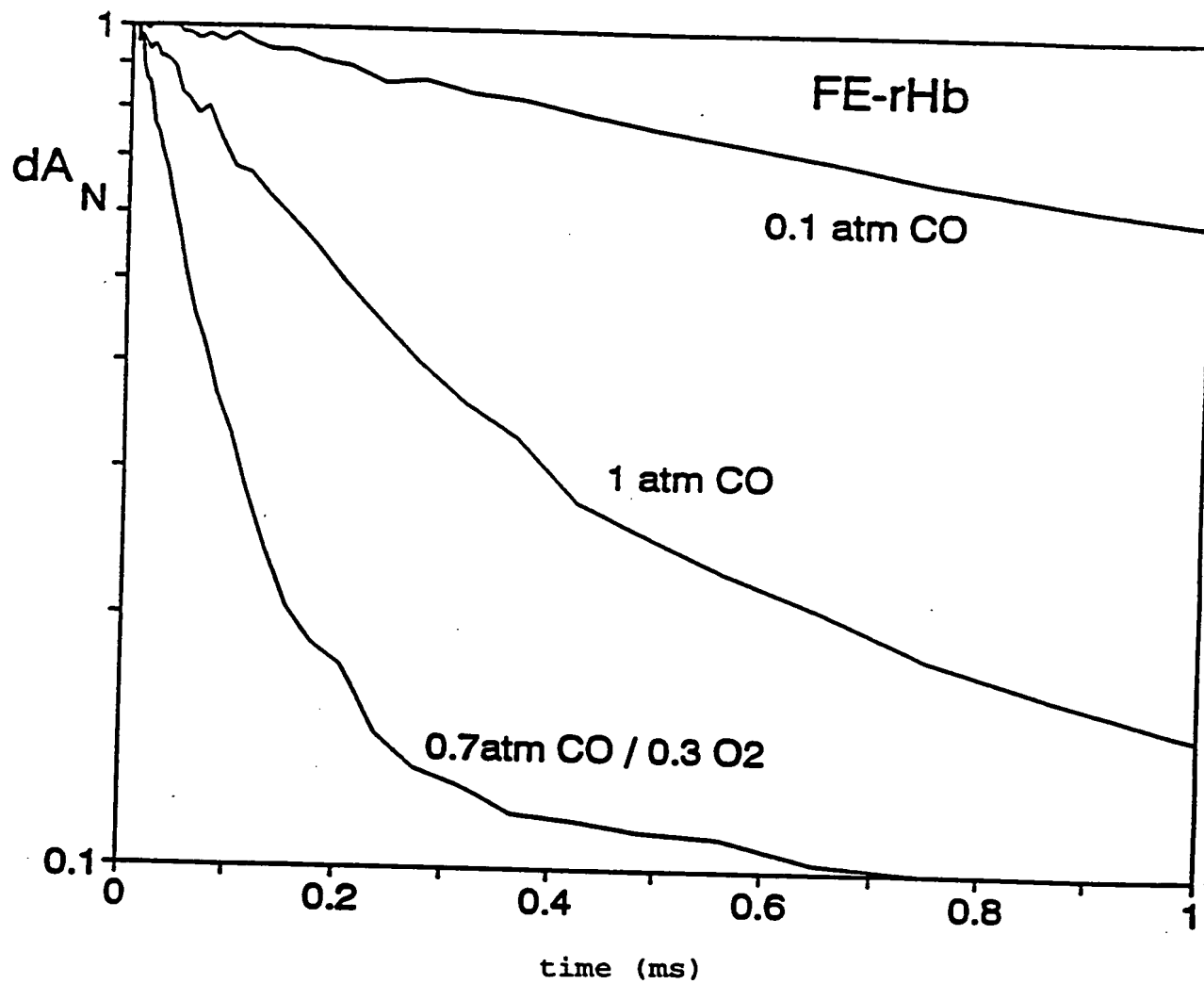


FIGURE 11